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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,385	01/26/2005	Shinya Nakaoka	P70376US0	8004
136	7590	10/30/2006	EXAMINER	
JACOBSON HOLMAN PLLC 400 SEVENTH STREET N.W. SUITE 600 WASHINGTON, DC 20004			LEE, GILBERT Y	
			ART UNIT	PAPER NUMBER
			3673	

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/522,385	<b>Applicant(s)</b> NAKAOKA ET AL.	
	<b>Examiner</b> Gilbert Y. Lee	<b>Art Unit</b> 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                       |                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____                                                |

### **DETAILED ACTION**

1. The amendment filed 9/19/06 has been entered.

#### ***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Drawings***

The replacement drawings filed 9/19/06 have been objected to by the Draftsman. See the Attached PTO-948 form.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites "regions which are placed one over the other...in the radial direction". It is unclear to the examiner as how the linear contact portions will be placed

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one over the other if one is on the inner sealing surface and one is on the outer sealing surface.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kakehi et al. (US Patent No. 5,934,680).

Regarding claim 1, the Kakehi et al. reference discloses a seal ring (50) including a first seal portion (e.g. 54) sealing a side wall surface (e.g. 90) of an annular groove (Fig. 25B), the annular groove being provided in one of two members (Figs. 25A and 25B); and

a second seal portion (e.g. 55),

an annular interspace between the two members being sealed by the first and second seal portions (Col. 1, Lines 30-36),

a ring body being provided with a separation portion (Figs. 13A and 13B) which is separated in one place in a circumferential direction (Fig. 16),

said first seal portion is provided with linear contact portions (e.g. 54) which come into linear contact with the sidewall surface of the annular groove, so as to extend

continuously over a whole circumference of the seal ring from one side of said separation portion to the other side thereof (Fig. 16), and

that said linear contact portion which is provided on one side of said separation portion, and said linear contact portion which is provided on the other side of said separation portion are located at a distance in a radial direction of the seal ring (Fig. 16). Note that because the Kakehi et al. reference discloses the structural limitations of claim 1, the Kakehi et al. will be able to control a quantity of leakage from a sealed fluid side to the unsealed fluid side of the shaft.

Regarding claim 2, the Kakehi et al. reference discloses the linear contact portions being placed one over the other when said linear contact portions are projected in the diametric direction (Fig. 16).

Regarding claim 3, the scope of the claim is a functional limitation and the Kakehi et al. reference discloses the invention substantially as claimed in claim 1, therefore it is inherent that the Kakehi et al. reference as modified would be able to function in the same manner as the applicant's invention.

Regarding claim 4, the Kakehi et al. reference discloses the linear contact portions define protruding portions protruding from a side surface of the ring body, toward the sidewall surface of the annular groove (Figs. 13A and 13B).

Regarding claim 5, the Kakehi et al. reference discloses the linear contact portion provided on one side of the separation portion being located nearer a side of the other member than the linear contact portion provided on the other side of the separation portion (Fig. 16).

Regarding claim 6, the Kakehi et al. reference discloses circularly-arcuate protrusive parts (e.g. 17) and circularly-arcuate recessed parts (e.g. recesses into which elements 17 are inserted in Fig. 16).

Regarding claim 10, the Kakehi et al. reference discloses the linear contact portions including:

a first linear contact portion (e.g. portion on left abutment 16 in Fig. 16) and a second linear contact portion (e.g. portion on right abutment 16 in Fig. 16).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kakehi et al. in view of Ruthenburg (US Patent No. 3,784,215)

Regarding claims 7 and 8, the Kakehi et al. reference discloses the invention substantially as claimed in claims 6 and 1, including circularly-arcuate protrusive parts (e.g. 17) and circularly-arcuate recessed parts (e.g. recesses into which elements 17 are inserted in Fig. 16).

However, the Kakehi et al. reference fails to explicitly disclose protrusions which come into linear contact with the fitting surfaces.

The Ruthenburg reference, an annular split sealing ring, discloses protrusions (e.g. 56 and 58) in linear contact with the fitting surfaces (e.g. 48).

It would have been obvious to one of ordinary skill in the art to provide protrusions to the Kakehi et al. reference in view of the teachings of the Ruthenburg reference in order to provide a circumferential constraint against the opening of the split sealing ring when the ring is in a free position (Ruthenburg, Col. 1, Lines 55-59).

Regarding claim 9, the Kakehi et al. reference, as modified in claim 8, discloses the fitting surfaces being radially spaced from the axis of the sealing ring (Kakehi et al., Fig. 16).

### ***Response to Arguments***

6. Applicant's arguments filed 9/19/06 have been fully considered but they are not persuasive.

With regards to the applicant's argument of claim 1, the argument is not persuasive because the Kakehi et al. reference discloses a first and second linear contact portion on opposite sides of the separation portion which are **capable of** controlling a leakage from a sealed fluid side to the unsealed fluid side and furthermore if the Kakehi et al. reference is capable of controlling a leakage, then it is **capable of** controlling a quantity of leakage.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

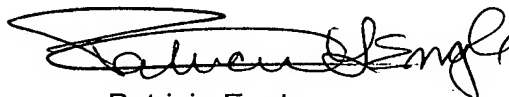
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GL  
October 26, 2006

A handwritten signature in black ink, appearing to read 'Patricia Engle', with a large, stylized flourish at the end.

Patricia Engle  
Supervisory Examiner  
Tech. Center 3600